SECTION 9

Maintaining the CUSA EXcel System

In this section:

- Recommended maintenance schedule
- Clean the CUSA EXcel console
- Clean the sterilizer case
- Maintain the handpiece
- Maintain the tip torquing set
- Store the CUSA EXcel system and accessories.

For Your Information

Routinely performing a few simple maintenance tasks keeps your CUSA EXcel system operating at maximum safety and performance levels. Biomedical Engineering at your facility should perform these tasks.

Recommended Maintenance Schedule

The following chart shows routine maintenance tasks, the equipment on which you perform them, and how often you perform each task. The term *months* refers to calendar months.

Table 9-1.
Routine maintenance tasks

Frequency	Equipment	Task
When used	Handpiece	Clean and wipe dry.
When used	Tip torquing set	Clean and wipe dry.
When used	CUSA console	Clean and wipe dry.
When used	Cooling water reservoir	Discard water from the reservoir.
When used	Footswitch	**1.** Discard the footswitch cover. **2.** Clean the footswitch.
Every month or 20 procedures, whichever comes first	CUSA handpiece	Lubricate the handpiece connector o-rings.
Every 3 months, or every 12 to 15 procedures, whichever comes first	CUSA console	**1.** Fill the cooling water reservoir with a solution consisting of 100 cc of 70% alcohol and 900 cc of water. **2.** Connect the handpiece, then turn on the system. **3.** Allow the system to run a few cooling cycles to clean the interior tubing. **4.** Turn off the system. **5.** Discard the alcohol solution, then fill the reservoir with distilled water. **6.** Turn on the system, and allow it to cycle the water to clean the alcohol solution out of the tubing. **7.** Turn off the system. **8.** Discard water from the reservoir.
Every 6 months or when the surgeon notices a lack of suction	CUSA console	Replace the contamination guard. Write either the installation date or the expiration date on the new guard.
Every 6 months or 100 procedures, whichever comes first	CUSA handpiece	Replace the handpiece connector o-rings.

Frequency	Equipment	Task
Once a year	Tip torquing wrench	Check the torque.
Once a year	CUSA console	Contact a Valleylab service representative to replace the cooling water pump tubing.

Clean the CUSA EXcel Console

You cannot sterilize the CUSA console, but you can clean it, disinfect it, or both. Use a mild cleaning solution or disinfectant and a damp cloth.

Warning

Electric Shock Hazard Always unplug the CUSA system before cleaning.

Notice

Do not rub, press, or touch any panels with solvents; caustic, corrosive, or abrasive cleaning or disinfectant compounds; or other materials that could scratch the panels. Do not use a betadine-based solution; it will cause discoloration.

Do not allow fluids to enter the chassis.

1. Unplug the unit power cord from the wall receptacle.
2. Using standard procedures for your facility, thoroughly wipe all surfaces and cords with a cleaning solution and disinfectant.
3. Make sure that the surface is completely dry before using the system again.

Clean the Sterilizer Case

Use a neutral detergent to clean the sterilizer case.

Notice

Do not clean the sterilizer case with abrasives. Product damage will result.

Maintain the Handpiece

Maintaining the handpiece involves cleaning the handpiece, lubricating the handpiece connector o-rings with a high viscosity lubricant such as silicone grease, or replacing the handpiece connector o-rings. If a problem develops, you may also need to have the handpiece recalibrated.

Clean the Handpiece

Items needed: Soft cloths (one moist, one dry), swab or pipe cleaner, mild cleansing solution, and rinse water.

Notice

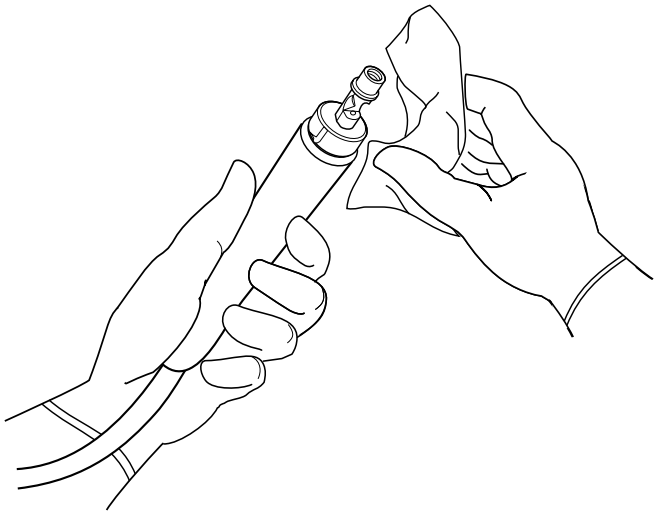
Product damage will result if you do not follow these notices when cleaning the handpiece:

- Do not immerse the handpiece cable electrical connector in liquid.
- Do not use ultrasonic or automated cleaners.
- Do not use chlorinated substances such as bleach solution.
- Do not clean the handpiece with abrasives such as Ajax, Comet, or steel wool.

Procedure:

1. Using a soft cloth, manually clean the handpiece, handpiece cable, and standard nosecone with a mild cleansing solution (neutral detergent) or blood dissolving detergent according to hospital policy.
2. Using a swab or pipe cleaner, manually clean the internal threads and suction port of the connecting body.
3. Using a soft cloth, manually clean the internal threads and face of the connecting body. Refer to Figure 9-1.

Figure 9-1.
Cleaning the handpiece with a soft cloth



4. Rinse the handpiece cable, handpiece housing, connecting body, and nosecone thoroughly with water.
5. Using a soft cloth, dry the handpiece cable, handpiece housing, connecting body, and standard nosecone.

Lubricate the Handpiece Connector O-Rings

Keeping the o-rings lubricated prevents them from drying out and cracking, which may cause handpiece cooling problems.

Items needed: A high viscosity lubricant such as silicone grease.

Items to be lubricated: The four o-rings on the handpiece connector water prongs.

Replace the Handpiece Connector O-Rings

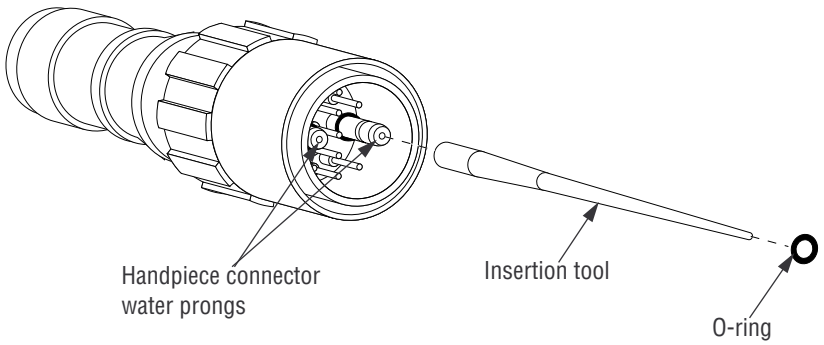
Regularly replacing the o-rings prevents excessive wear, which may result in handpiece cooling problems.

Items needed: O-Ring maintenance kit (Part Number 260-650-000), which includes o-rings, an insertion tool, and instructions.

Items to be replaced: The four o-rings on the handpiece connector water prongs.

Refer to Figure 9-2.

Figure 9-2.
Replacing the handpiece connector o-rings



Recalibrate the Handpiece

Handpieces for the CUSA EXcel system do not need recalibration unless a problem develops. If this happens, contact Valleylab to arrange returning the handpiece for service. (Refer to *Return Equipment for Service* in Section 13, *Repair Policy.*)

Maintain the Tip Torquing Set

Clean the Tip Torquing Set

Notice

Product damage will result if you do not follow these notices when cleaning the Tip Torquing Set.

- Do not use ultrasonic or automatic washers.
- Do not autoclave.
- Do not use chlorinated substances such as bleach solution.
- Do not clean with abrasives such as Ajax, Comet, or steel wool.

Items Needed

Detergent, two soft cloths, and rinse water.

Procedure:

1. Using a soft cloth and a water and detergent combination, manually clean the tip torquing base and the torque wrench.
2. Rinse the tip torquing set thoroughly with water.
3. Using a soft cloth, dry the tip torquing set.

Check the Torque on the Tip Torquing Wrench

A biomedical engineer or a Valleylab service representative should check the torque on the tip torquing wrench.

Tools Needed

- Torque indicating wrench
- 7/32 in. hex socket
- 9/32 in. hex socket.

Procedure:

1. Attach the socket to the torque indicating wrench.
2. Clamp the torque indicating wrench handle in a vise.
3. On the torque indicating wrench, adjust the scale under the indicator needle to zero.
4. Set the peak indicating needle on the torque indicating wrench to zero.
5. Place the green end of the torque wrench from the tip torquing set on the 9/32 in. hex socket.
6. Rotate the tip torquing wrench clockwise until you feel and hear a click.
7. Rotate the tip torquing wrench clockwise until you feel and hear a second click.

8. Read and record the peak torque.
9. Repeat steps three through eight for a total of three times.
10. Repeat the process on the blue end of the tip torquing wrench and the 7/32 in. hex socket.
11. All values must be in the following ranges:

Table 9-2.
Torque values for the torque wrench

Handpiece frequency	Range (inch-pounds)
23 kHz (green)	55 to 70
36 kHz (blue)	20 to 32

If the values are higher or lower, send the wrench to Valleylab for recalibration.

Store the CUSA EXcel System and Accessories

CUSA Console

Drain all liquids. Store the CUSA system in a low traffic area that is free of dirt, blood, water, and other contaminants. Store the system at an ambient temperature between -34° C (-29° F) and 65° C (149° F).

Handpiece

Drain all liquids. Store the handpiece in the sterilizer case according to your facility's policy.

Store the handpiece at an ambient temperature between -34° C (-29° F) and 65° C (149° F).

Footswitch

If you have attached the footswitch to the console, you do not need to disconnect it except for maintenance or service. When you are not using the CUSA system, store the footswitch in the storage compartment in the rear of the console.

CEM Nosecone

The CEM nosecone is a sterile, single-use item. Store unopened packages; discard used CEM nosecones.